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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,766	09/14/2000	Colin Stephen Gormley	5780	1331

7590 11/19/2002

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EXAMINER

VU, QUANG D

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 11/19/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,766

Applicant(s)

GORMLEY ET AL.

Examiner

Quang D Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27, 29, 34 and 38 is/are rejected.
- 7) ☒ Claim(s) 28, 30-33, 35-37 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 28 is objected to because of the following informalities: The phrase "...etching a part of a portion of the first etch stop layer adjacent the portion of the second layer where the component is to be formed for thinning the first etch stop layer adjacent the portion of the second layer..." is not clear. The claimed limitation should be changed to "...etching a part of a portion of the first etch stop layer adjacent the portion of the second layer where the component is to be formed by thinning the first etch stop layer adjacent the portion of the second layer...".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-27, 29, 34 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, in lines 6-9, the phrase "...prior to bonding the one of the second and third layers to the second etch stop layer, patterning the second etch stop layer to define the component in the second layer for facilitating etching of the second layer through the third layer; bonding the one of the second and third layers to the second etch stop layer..." is unclear. The specification discloses the second etch stop layer (9) is thermally grown on the upper surface (26) of the

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second layer (5). Then, the second etch stop layer (9) is patterned to define the component (10) in the second layer (5). The third layer (6) is formed on the second etch stop layer (9) after the second etch stop layer (9) has been patterned (see figures 8-11; page 12, line 11 to page 13, line 1). However, the claimed invention shows prior to bonding the one of the second (5) and third (6) layers to the second etch stop layer (9), patterning the second etch stop layer (9) to define the component (10) in the second layer (5), bonding the one of the second (5) and third (6) layers to the second etch stop layer (9). The phrase should be changed to "...prior to bonding the third layer (6) to the second etch stop layer (9), patterning the second etch stop layer (9) to define the component (10) in the second layer (5) for facilitating etching of the second layer (5) through the third layer (6), bonding the third layer (6) on the second etch stop layer (9)..."

Claim 12, in line 1-2, the phrase "...the first and second etch stop layers are grown layers" is unclear. The specification discloses the first (8) and second (9) etch stop layers are thermally grown layers (page 11, lines 30-31; page 12, lines 13-14). However, the claimed invention shows the first (8) and second (9) etch stop layers are grown layers. The phrase should be changed to "...the first and second etch stop layers are thermally grown layers".

Claim 29, in lines 2-4, the phrase "...the portion of the first etch stop layer adjacent the component is thinned to a depth relative to a depth of the second etch stop layer for relieving stress the portion of the second layer..." is unclear as to how deep is the first etch stop layer being thinned. It is also unclear why the depth of the second etch stop layer is being used to determine the amount of the first etch stop layer being thinned.

Claim 34, in lines 1-2, the phrase "...the first etch stop layer is a grown layer" is unclear. The specification discloses the first etch stop layer (8) is a thermally grown layer (page 11, lines

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30-31). However, the claimed invention shows the first etch stop layer (8) is a grown layer. The phrase should be change to "...the first etch stop layer is a thermally grown layer".

Claim 38, in lines 1-3, the phrase "...the cross-sectional area of the communicating bore through the first layer is at least half the area of the component in plan view" is unclear as to which portion of the communicating bore is used to determine the cross-sectional area of the communicating bore which is at least half the area of the component in plan view. The phrase should be changed to "...the smallest cross-sectional area of the communicating bore through the first layer adjacent the component is at least half the area of the component in plan view".

Allowable Subject Matter

Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claim 28 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang D Vu whose telephone number is 703-305-3826. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 703-308-2772. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

QV
November 15, 2002

Steven Loh